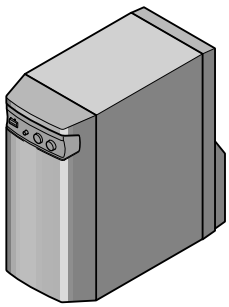
Service Manual



ORDER NO.
RRV2012

POWERED SUBWOOFER

S-W100S

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	S-W100S		
MYXMA	○	AC220–230V	————
MLXMA/E	○	AC220–230V	————
SDXMA1/E	○	AC110-115V/120-127V/220-230V/240V	With the voltage selector

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

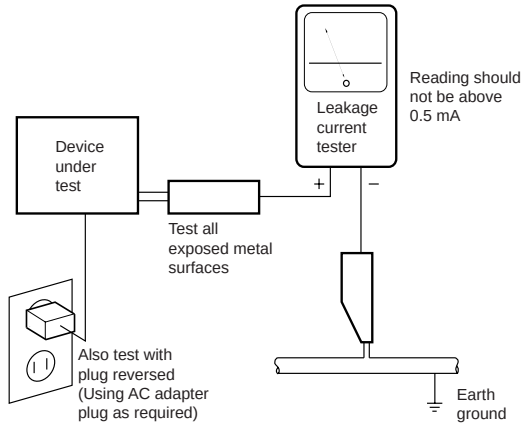
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Reading should not be above 0.5 mA
Leakage current tester
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

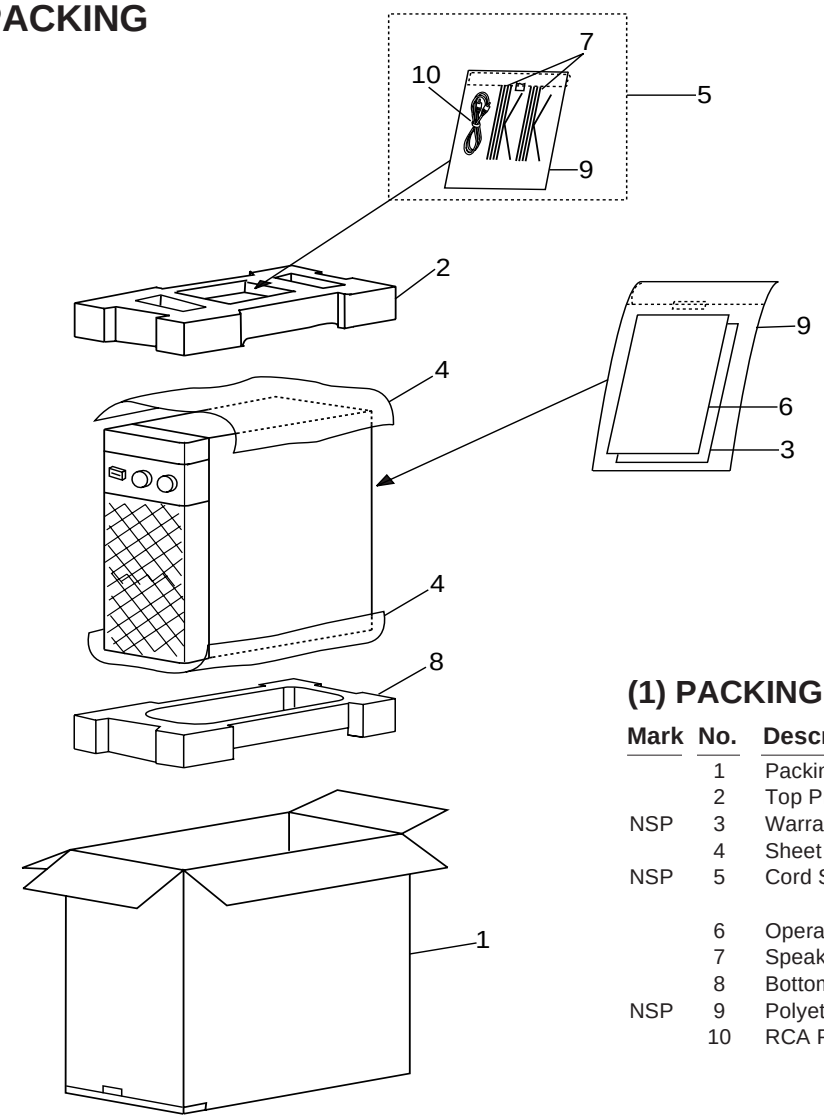
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS AND PARTS LIST

NOTES :
- *Parts marked by " NSP " are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screw adjacent to ▼ mark on the product are used for disassembly.*

2.1 PACKING



(1) PACKING PARTS LIST

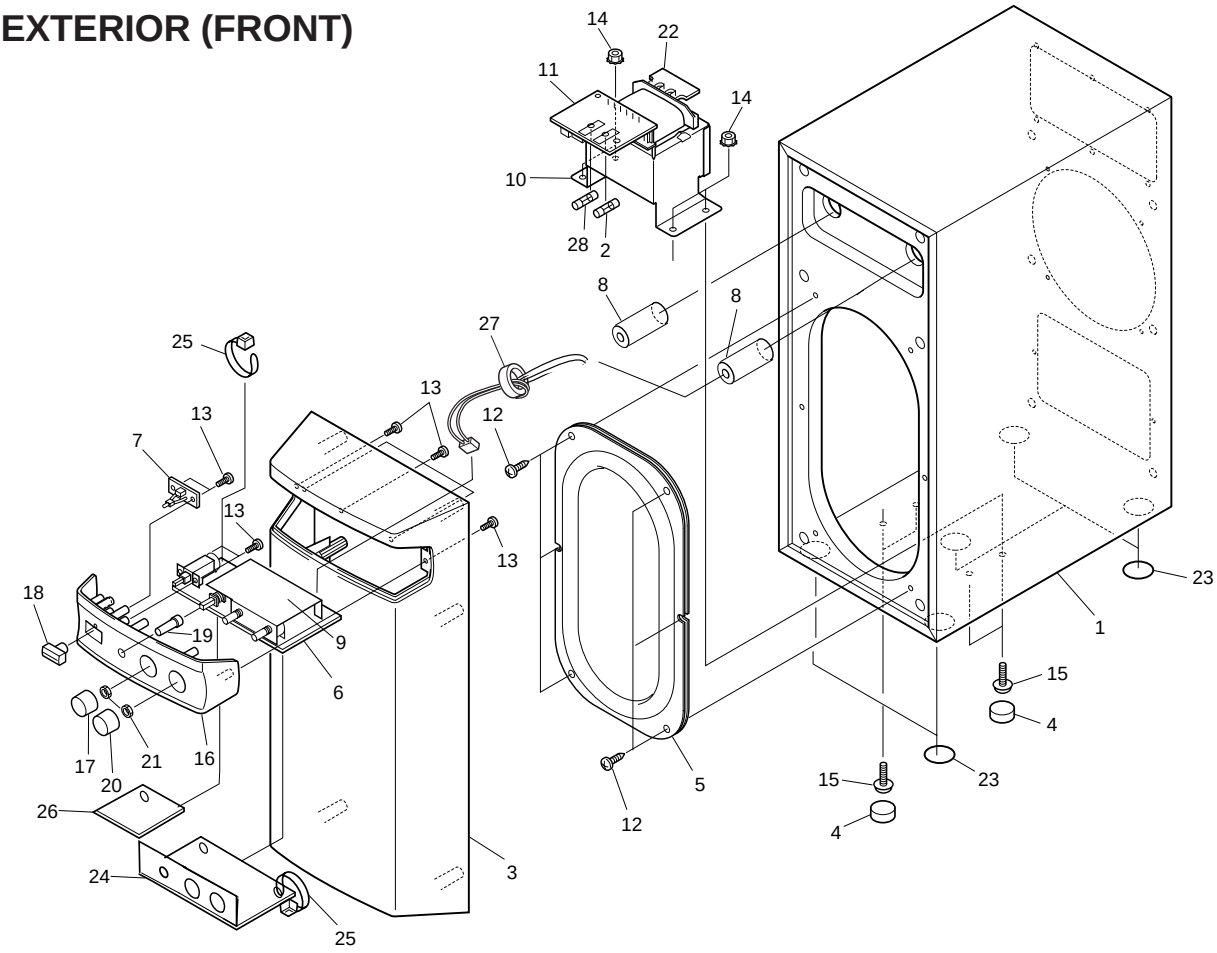
Mark	No.	Description	Parts No.
	1	Packing Case	See Contrast table (2)
	2	Top Protector	SHA2126
NSP	3	Warranty Card	See Contrast table (2)
	4	Sheet (550X300X0.5)	SHC1721
NSP	5	Cord Set	SME2789
	6	Operating instructions	See Contrast table (2)
	7	Speaker cords (L=3.0m)	SDS1052
	8	Bottom Protector	SHA2127
NSP	9	Polyethylene Bag	E11- 024
	10	RCA Plug cord (L=3.0m)	SDE1028

(2) CONTRAST TABLE

S-W100S/MYXMA, MLXMA/E and SDXMA1/E are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			MYXMA type	MLXMA/E type	SDXMA1/ E type	
	1	Packing Case	SHG2108	SHG2110	SHG2109	
NSP	3	Warranty Card	ARY7022	Not used	Not used	
	6	Operating instructions (English/ French/ German/ Italian/ Dutch/ Swedish/ Spanish/ Portuguese)	SRD1200	Not used	Not used	
	6	Operating instructions (English/ Chinese)	Not used	SRD1202	Not used	
	6	Operating instructions (English/ Chinese/Spanish/ Portuguese)	Not used	Not used	SRD1201	

2.2 EXTERIOR (FRONT)



(1) EXTERIOR (FRONT) SECTION PARTS LIST

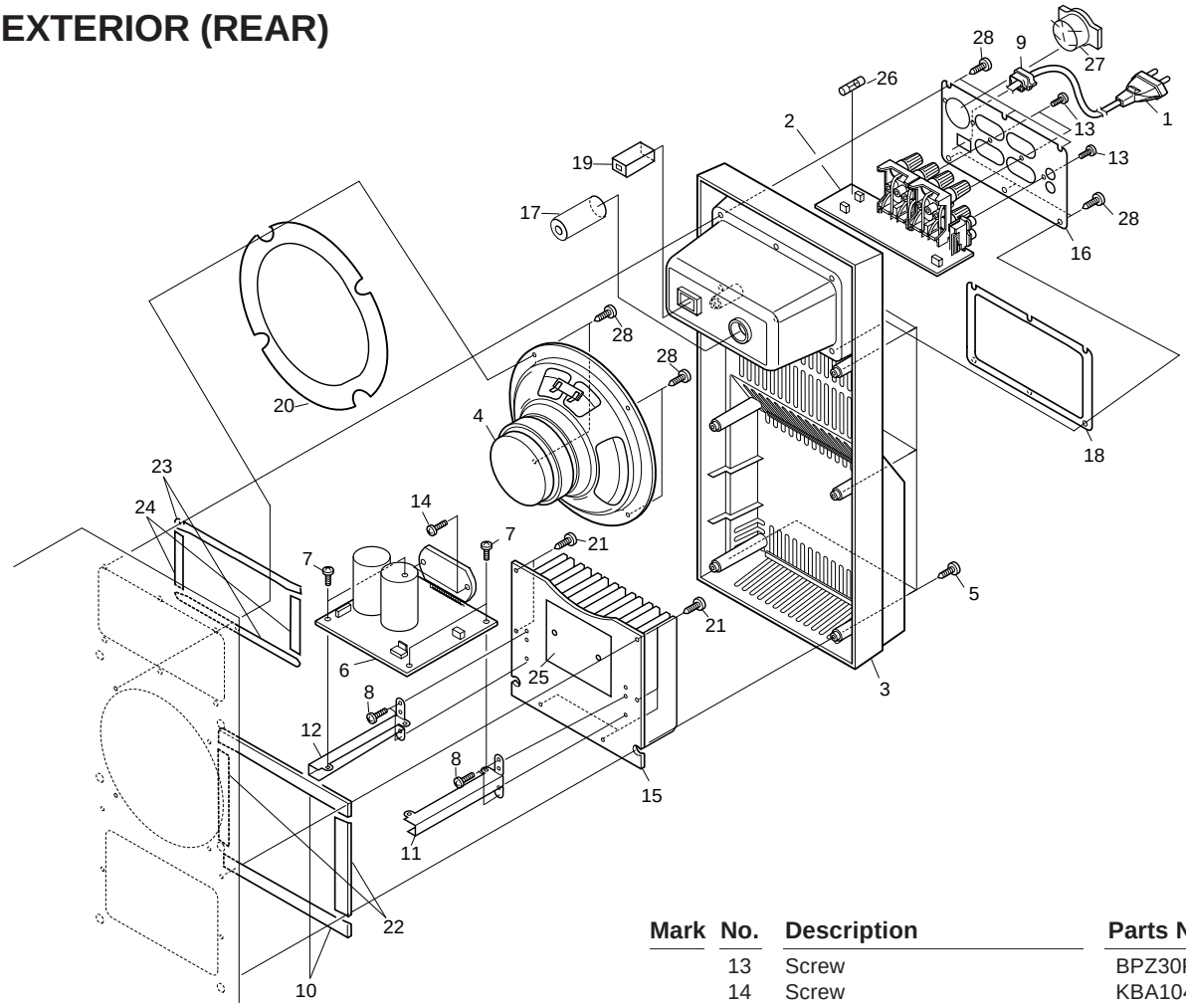
Mark	No.	Description	Parts No.
NSP	1	CS ASSY	See Contrast table (2)
⚠	2	Fuse (T1.6A/250V: FU 1)	SEK1005
	3	Grill	SMG1616
	4	Cap	SEC1396
	5	Passive Radiator	SWP9002
	6	CONT ASSY	SWZ1009
	7	LED ASSY	SWZ1015
	8	Packing	SEC1407
NSP	9	Shielding Plate	SNE1024
⚠	10	Power Transformer	See Contrast table (2)
	11	TRN. PRI ASSY	See Contrast table (2)
	12	Screw	BYC40P160FZB
	13	Screw	BPZ30P100FZK
	14	Nut	KBA1047
	15	Screw	KBA1048
	16	Front Panel Assy	SXB1344
	17	VR Knob	SNK2333
	18	Power button	SNK2335
	19	Phase button(0°/180°)	SNK2336
	20	Turnover Knob	SNK2334
	21	Nut	NK70FUC
	22	TRN. SEC ASSY	SWZ1014
	23	Nonskid Pad	SEC1397
NSP	24	Shielding Sheet	SES1020
	25	Binder	SEP- 135
	26	Barrier	SEC1422
	27	Ferrite Core	SMF1001
⚠	28	Fuse (T1.6A/250V: FU 2)	See Contrast table (2)

(2) CONTRAST TABLE

S-W100S/MYXMA, MLXMA/E and SDXMA1/E are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			MYXMA type	MLXMA/E type	SDXMA1/ E type	
NSP	1	CS ASSY	SMW1546	SMW1548	SMW1547	
⚠	10	Power Transformer (AC220-230V)	STT1007	STT1008	STT1009	
	11	TRN. PRI ASSY	SWZ1012	SWZ1012	SWZ1013	
⚠	28	Fuse (T1.6A/250V: FU 2)	Not used	Not used	SEK1005	

2.3 EXTERIOR (REAR)



(1) EXTERIOR (REAR) SECTION PARTS LIST

Mark	No.	Description	Parts No.
⚠	1	AC Power Coed	See Contrast table (2)
	2	JACK ASSY	SWZ1011
	3	Rear Cover	SNK2332
	4	Speaker	SWA9003
	5	Screw	BYC35P250FZB
	6	POWER ASSY	SWZ1007
	7	Screw	BBZ30P060FMC
	8	Screw	BBZ35P080FMC
	9	Cord Stopper	SNK2361
	10	Packing	SEC1395
	11	Heatsink BRKT (A)	SNB1061
	12	Heatsink BRKT (B)	SNB1062
	13	Screw	BPZ30P100FZK
	14	Screw	KBA1049
	15	Heatsink	SNH1041
	16	Rear Panel Assy	See Contrast table (2)
	17	Packing	SEC1407
	18	Packing	SEC1394
	19	Packing	SEC1408
	20	Packing	SEC1393
	21	Screw	BYC35P200FZB
	22	Packing	SEC1417
	23	Packing	SEC1418
	24	Packing	SEC1419
	25	Sheet	SEE1069
⚠	26	Fuse (FU 3)	See Contrast table (2)
⚠	27	Voltage Selector	See Contrast table (2)
	28	Screw	BYC40P160FZB

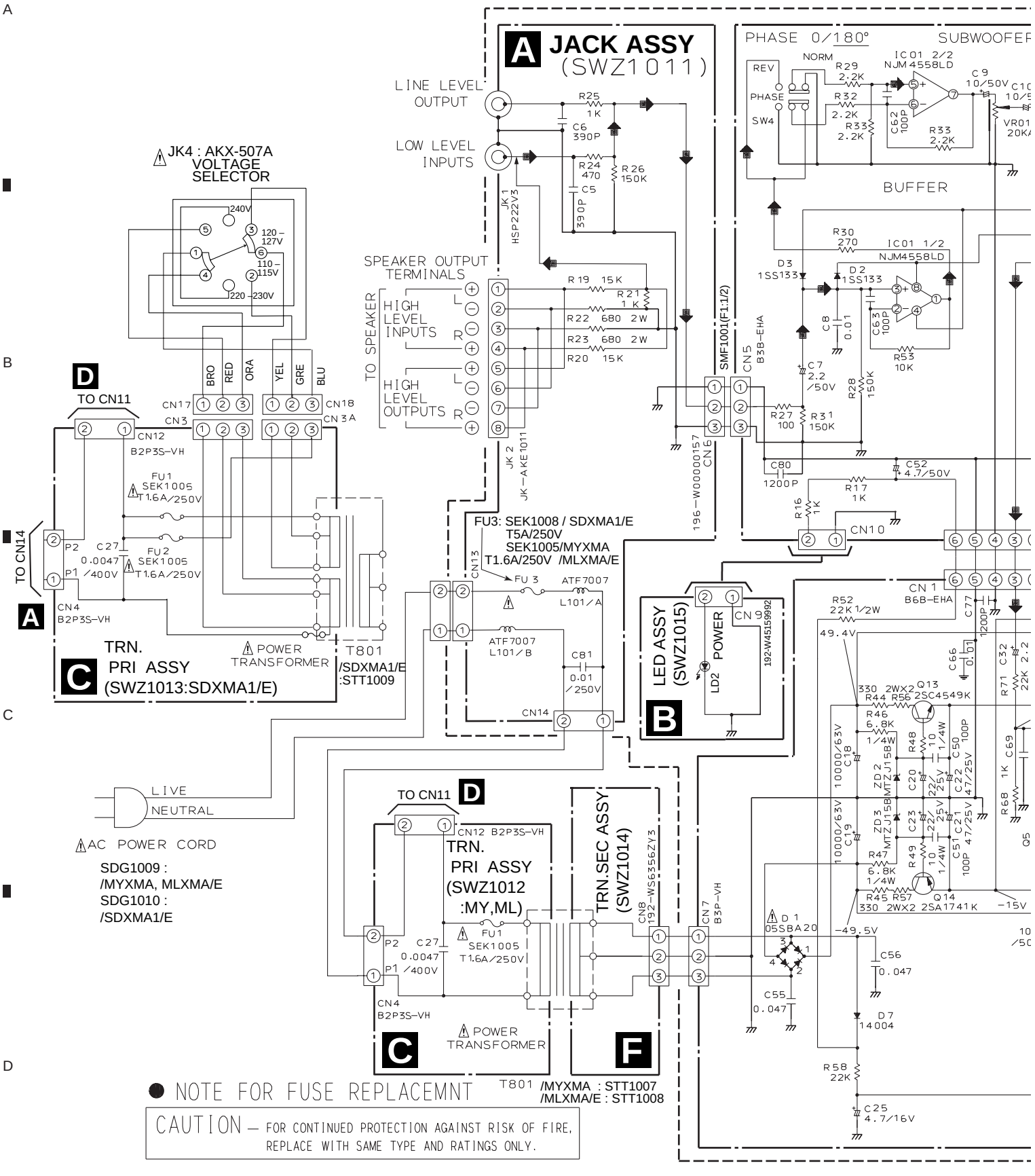
(2) CONTRAST TABLE

S-W100S/MYXMA, MLXMA/E and SDXMA1/E are constructed the same except for the following:

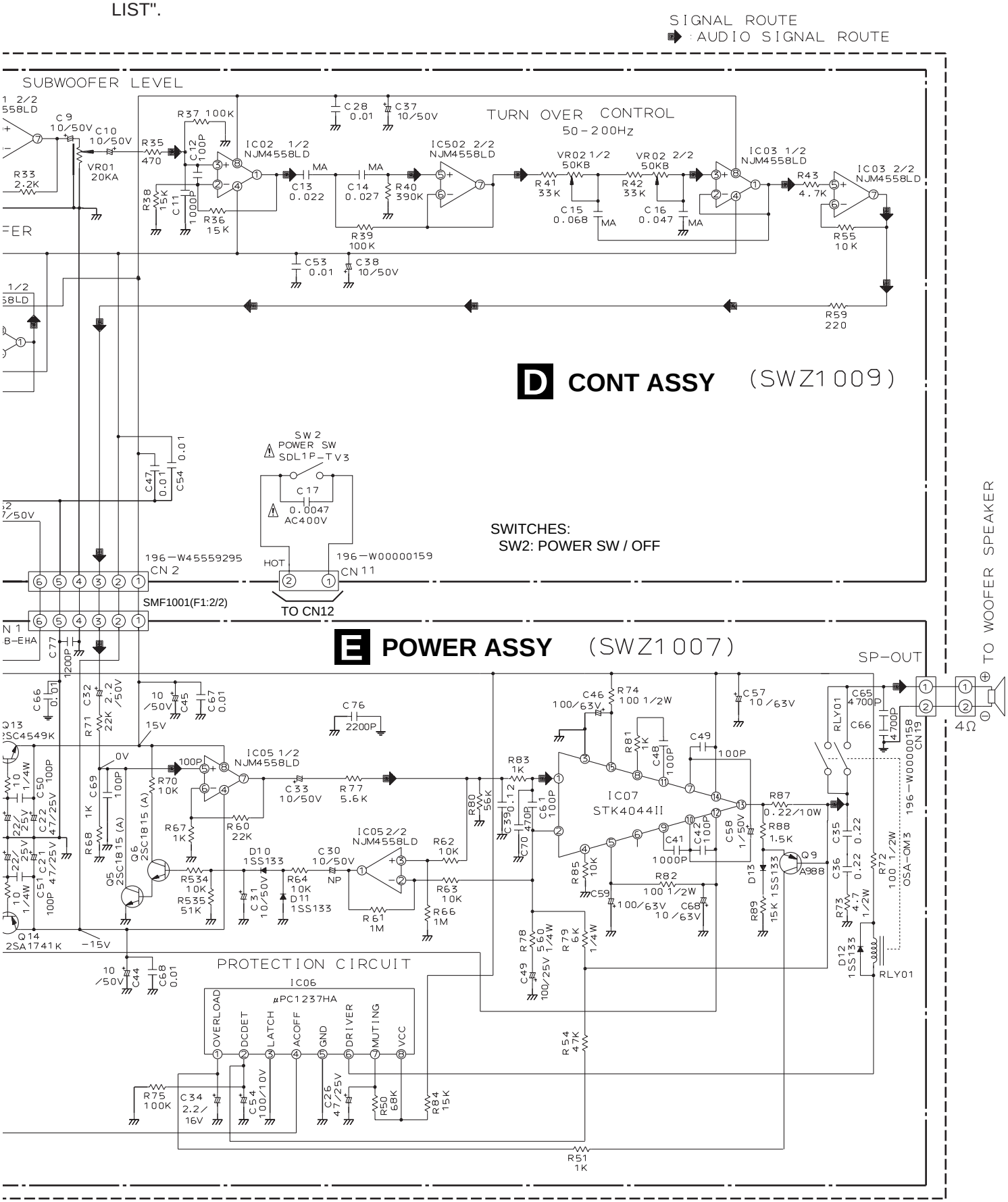
Mark	No.	Symbol and Description	Part No.			Remarks
			MYXMA type	MLXMA/E type	SDXMA1/E type	
⚠	1	AC Power Coed	SDG1009	SDG1009	SDG1010	
	16	Rear Panel Assy	SXB1346	SXB1346	SXB1345	
⚠	26	Fuse (T1.6A/250V: FU 3)	SEK1005	SEK1005	Not used	
⚠	26	Fuse (T5.0A/250V: FU 3)	Not used	Not used	SEK1008	
⚠	27	Voltage Selector	Not used	Not used	AKX-507	

3. SCHEMATIC DIAGRAM

3.1 JACK , CONT, POWER, LED, TRN. SEC and TRN. PRI ASSEMBLIES

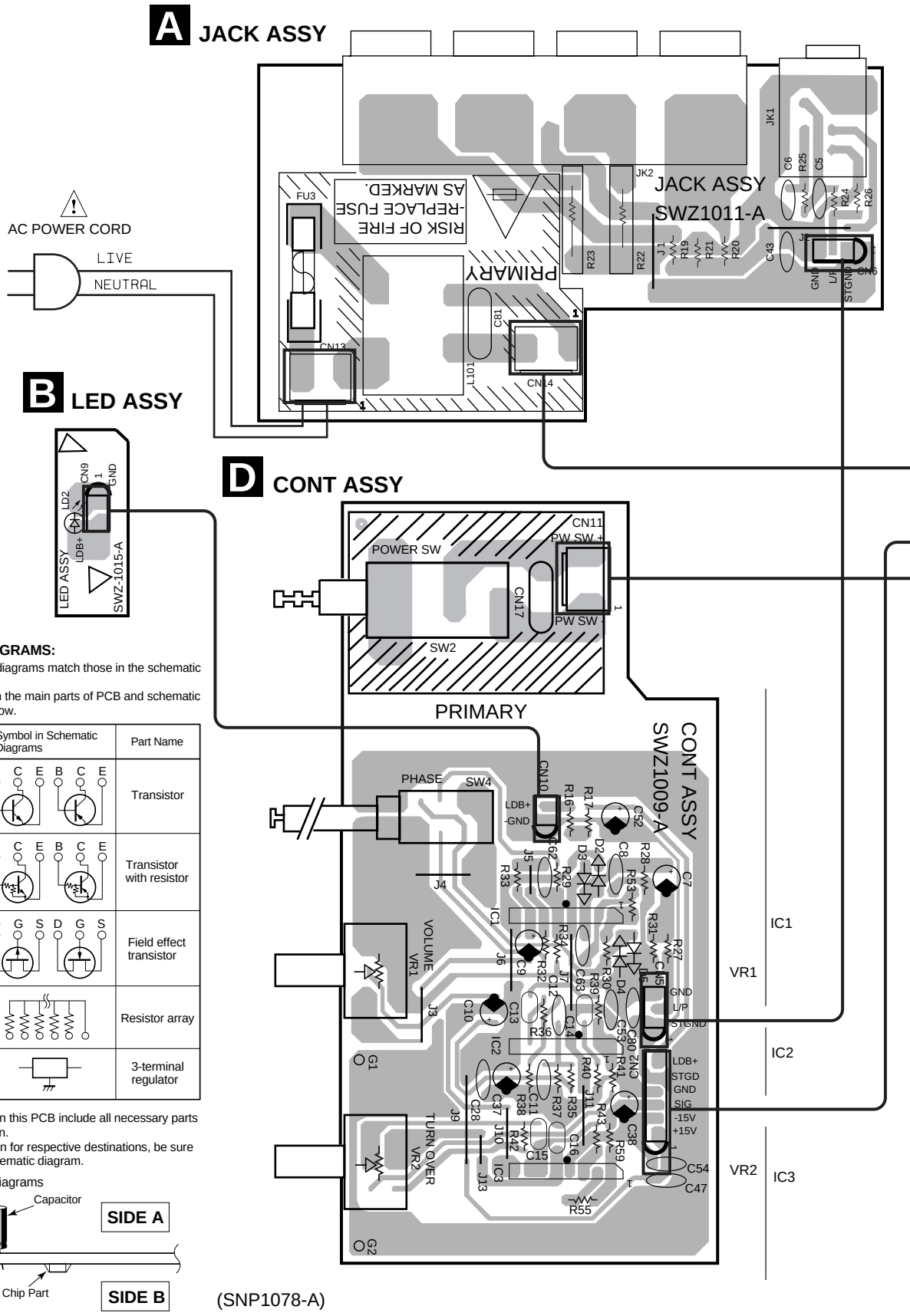


Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".



4. PCB CONNECTION DIAGRAM

SIDE A

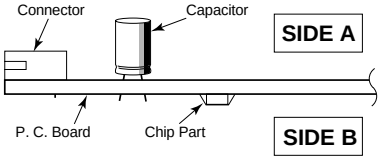


NOTE FOR PCB DIAGRAMS:

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. Viewpoint of PCB diagrams



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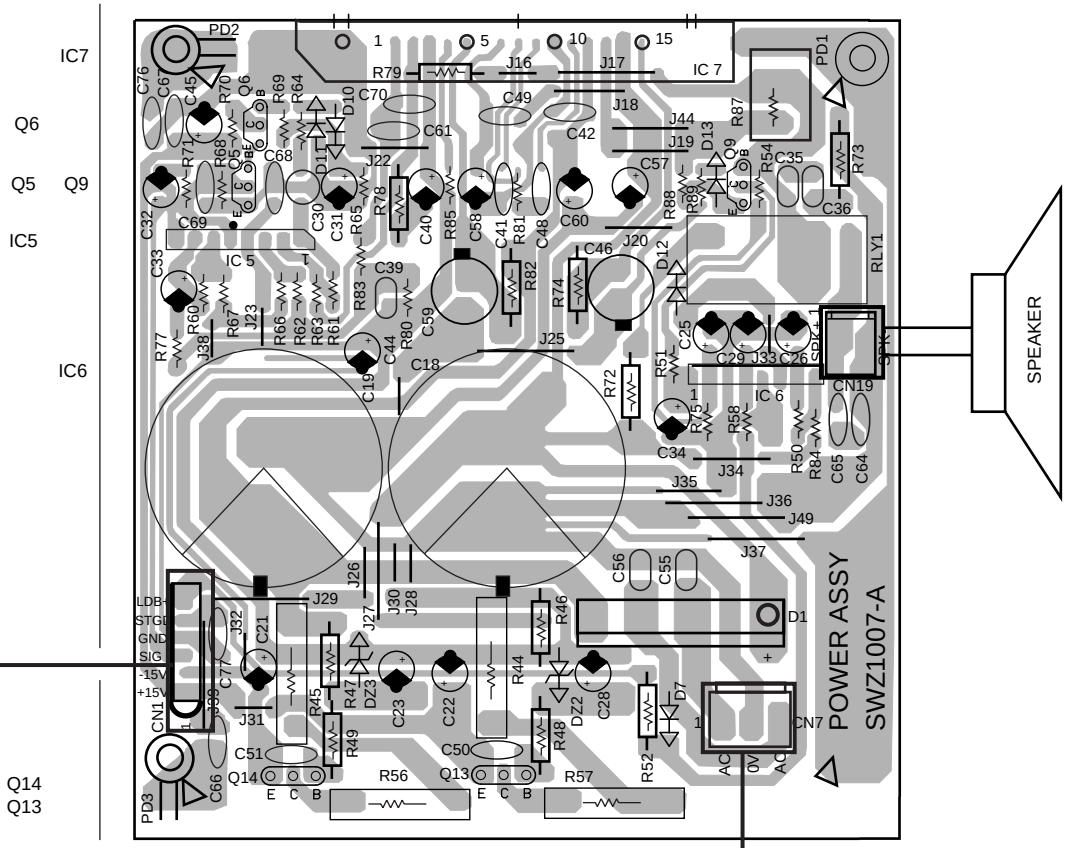
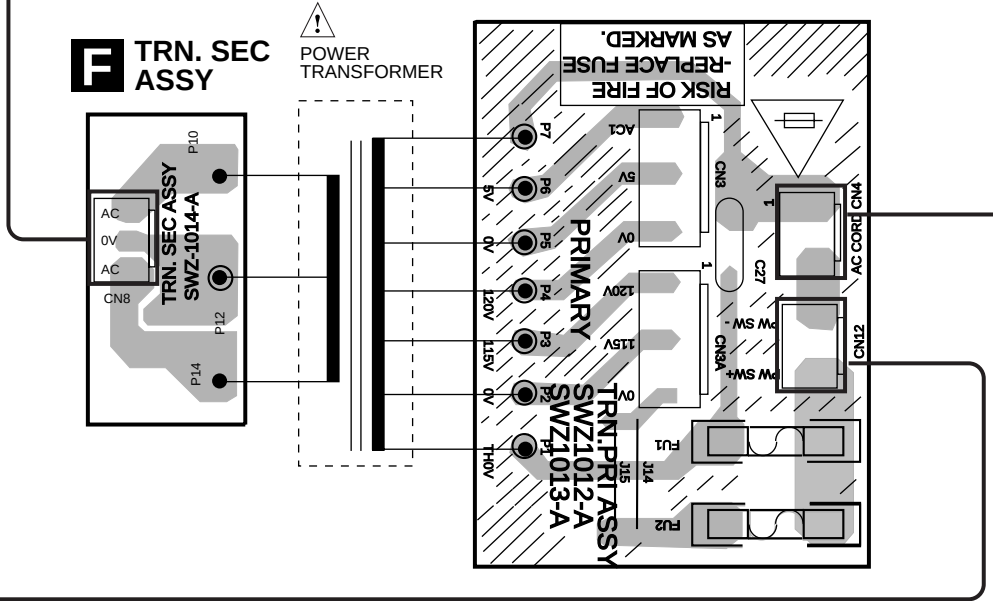
SIDE A

E POWER ASSY



C TRN. PRI ASSY

F TRN. SEC ASSY



(SNP1078-A)

5. PCB PARTS LIST

NOTES :
- *Parts marked by "* NSP *" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560 Ω → 56 × 10¹ → 561 ..... RD1/4PU 5 6 1 J
47k Ω → 47 × 10³ → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × 10¹ → 5621 ..... RN1/4PC 5 6 2 1 F

■ LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No.			Remarks
		MYXMA type	MLXMA/E type	SDXMA1/E type	
NSP	AF ASSY	SWK1034	SWK1034	SWK1035	
	├POWER ASSY	SWZ1007	SWZ1007	SWZ1007	
	├CONT ASSY	SWZ1009	SWZ1009	SWZ1009	
	├JACK ASSY	SWZ1011	SWZ1011	SWZ1011	
	├TRN. PRI ASSY	SWZ1012	SWZ1012	SWZ1013	
	├TRE. SEC ASSY	SWZ1014	SWZ1014	SWZ1014	
	└LED ASSY	SWZ1015	SWZ1015	SWZ1015	

■ CONTRAST OF PCB ASSEMBLIES

TRN. PRI ASSY

Mark	Symbol and Description	Part No.		Remarks
		SWZ1012	SWZ1013	
	CN17 (3P)	Not used	SDX1032	
	CN18 (3P)	Not used	SDX1034	

Mark	No.	Description	Parts No.

E POWER ASSY

SEMICONDUCTORS

	IC05		NJM4558LD
	IC06	(UPC1237HA)	SZQ1023
	IC07	(STK4044MK2)	SZQ1024
	Q5, Q6		2SC1815
	Q9	(2SA988)	SZQ1025
	Q13	(2SC4549K)	SZQ1026
	Q14	(2SA1741K)	SZQ1027
⚠	D 1		D5SBA20
	D7, D12	(1N4004)	SZQ1028
	D10, D11, D13		1SS133
	ZD2, ZD3	(MTZJ15B)	SZQ1029

RELAY

	RLY1	(OSA-DM3)	SZS1007

NOTE:

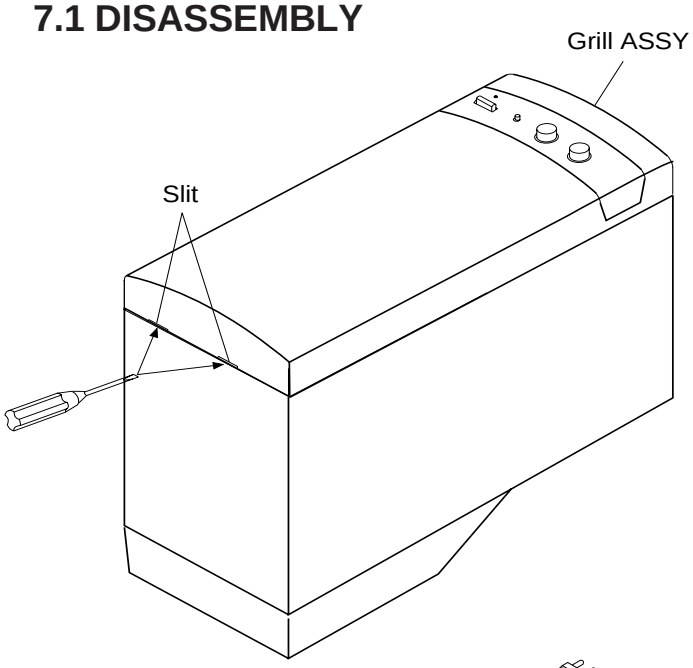
Other assy will be replaced with the whole asssembly. Therefore, individual parts in the assembly are not specified for servicing.

6. ADJUSTMENT

There is no information to be shown in this chapter.

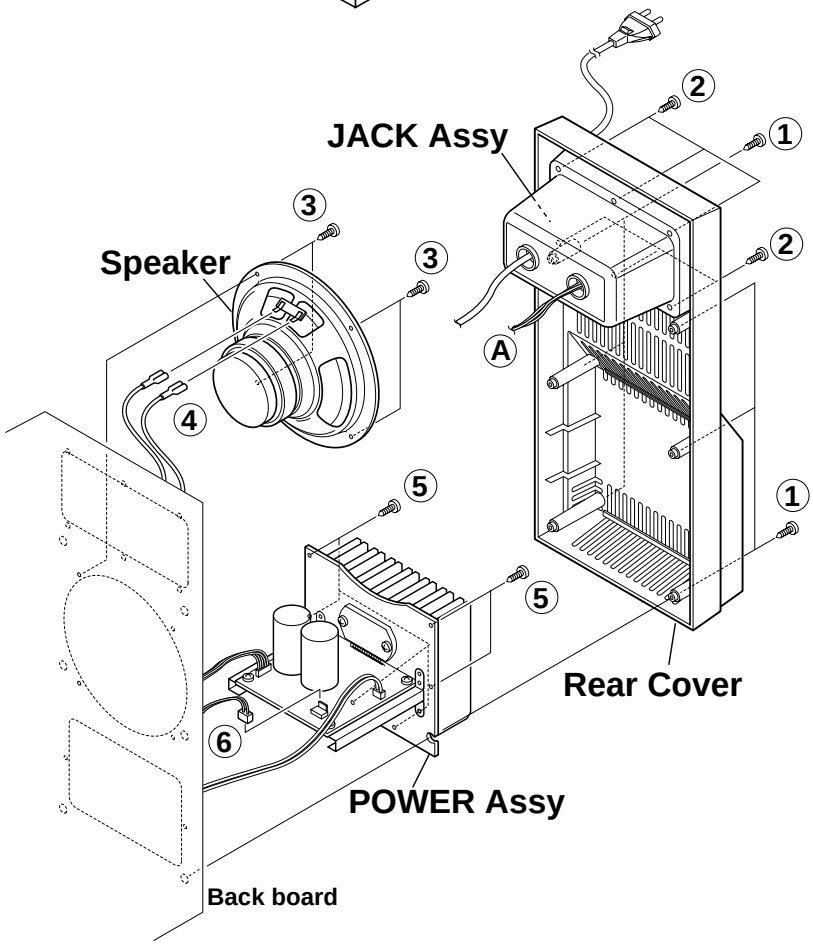
7. GENERAL INFORMATION

7.1 DISASSEMBLY



● GRILL ASSY SECTION

- Remove the Grill Assy.
- Insert a screwdriver into the slit under the Grill Assy to pry open the front grill gradually and uniformly.
- Remove 3 (AC and Signal) connectors from the CONT ASSY .



● REAR COVER SECTION

- Remove 6 screws (①) from the Rear Cover.

● JACK ASSY SECTION

- Remove 6 screws (②) from the JACK Assy.
- Remove the Ⓐ connector from the CONT Assy .

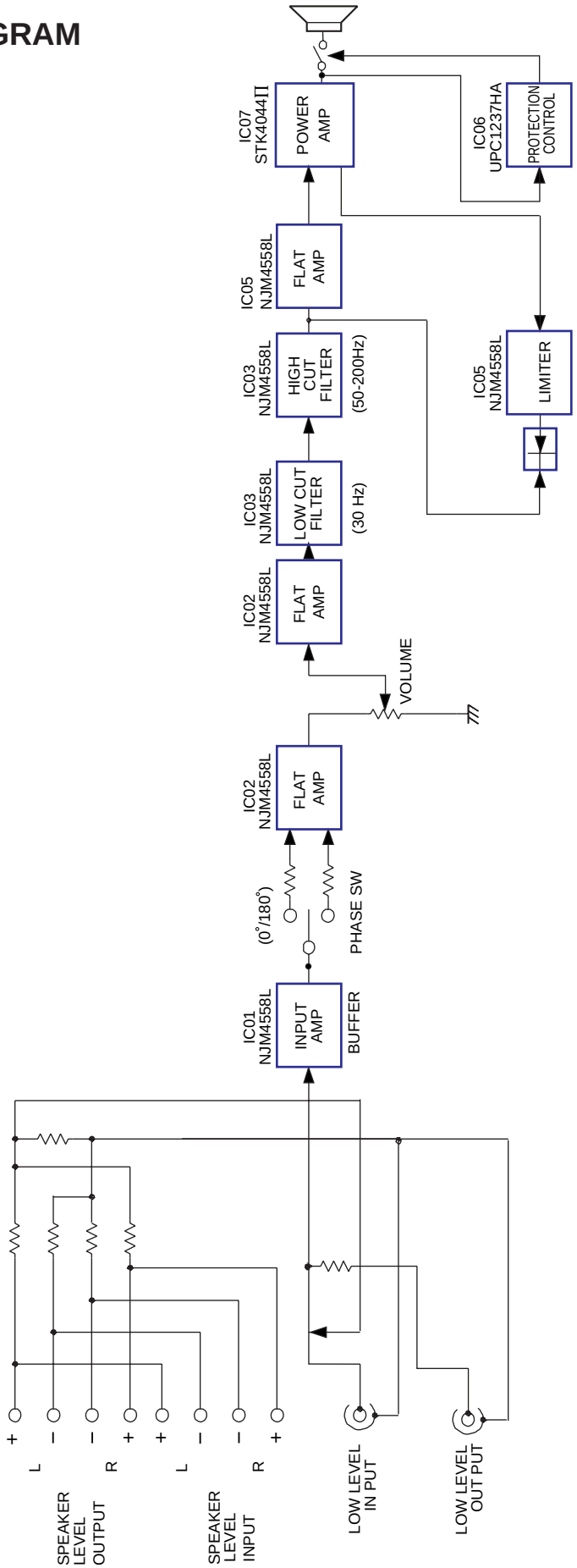
● SPEAKER SECTION

- Remove the Rear Cover.
- Each speaker is attached to the Back board by 4 external screws (③). detach it, unfasten those screws.
- When attaching it, face its terminal upward.

● POWER ASSY SECTION

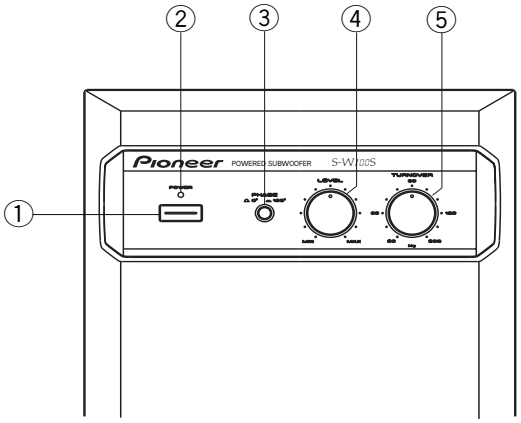
- Remove the Rear Cover.
- Remove 6 screws (⑤) from the Back board.
- Remove the ⑥ connector from the POWER Assy .

7.2 BLOCK DIAGRAM



8. PANEL FACILITIES AND SPECIFICATIONS

■ PANEL FACILITIES



FRONT PANEL

① Power switch (POWER)
When pressed, power is turned ON; when pressed again, power is turned OFF.

② Power Indicator
Illuminates when the power is on.

③ Phase switch (PHASE ▮ 0˚ / ▂ 180˚)
When depressed (▂ 180˚), the output phase becomes the reverse of the input signal, and when raised (▮ 0˚), it is in the same phase as the input signal.

- Normally, the switch is set to (▮ 0˚).
  But when the sound connection between the subwoofer and the left and right speakers sounds unnatural, try switching to 180˚ and set the switch in the position where the sound is natural.

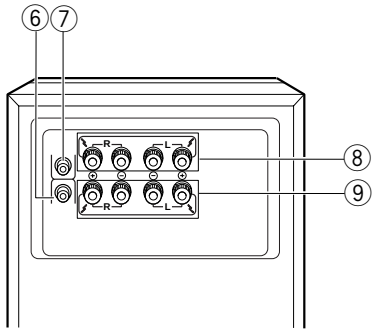
④ Level knob (LEVEL)
Sets the subwoofer volume.

- Turn the knob slowly from the MIN position.
- With this unit, the bass level can be independently set, so do not turn up the bass on the stereo amplifier.

⑤ Turnover knob (TURNOVER)
Sets the high limit of the frequency played back by the subwoofer.

- Setting Criteria

50Hz ... when the diameter of the left/right speakers is 20-cm (8 in.) or more.
100Hz . when the diameter of the left/right speakers is 10 – 25-cm (4 – 10 in.).
200Hz . when the diameter of the left/right speakers is 12-cm (5 in.) or less.



REAR PANEL

⑥ Line Level Input terminal (LINE LEVEL INPUT)
Connects to the stereo amplifier's SUBWOOFER PRE-OUT terminal, with the specially provided RCA plug cord.

⑦ Line Level Output terminal (LINE LEVEL OUTPUT)
Used for connecting other equipment through the amplifier.

⑧ Speaker Level Output terminals (SPEAKER LEVEL OUTPUT)
When the speakers output terminals on the stereo amplifier are connected to this unit's SPEAKER LEVEL INPUT terminals ⑨ and used as the unit's input signal, these terminals are used to connect the left and right speakers via the unit.

⑨ Speaker Level Input terminals (SPEAKER LEVEL INPUT)
Connect to the speakers output terminals on the stereo amplifier, with the specially provided speaker cords.

■ SPECIFICATIONS

Cabinet ..... Floor type with passive radiator system
Speaker (Magnetically shielded type) ..... 16 cm cone type
Passive radiator ..... 15.6 cm x 28.6 cm oval
Power Amplifier
Continous Power Output (RMS) ..... 100 W/4 Ω (30 – 200 Hz)
Total Harmonic Distortion ..... 0.5 %
(30 – 200 Hz, 4 Ω, 25 W)
• *Above specifications are for when power supply is 230 V.*
Input (sensitivity at 100 Hz/impedance) (MYXMA, MLXMA/E)
SPEAKER LEVEL ..... 1.6 V + 1.6 V/15 kΩ
(both channels in-phase)
LINE LEVEL (RCA jack) ..... 160 mV/50 kΩ
Turnover Frequency ..... 50 – 200 Hz (continuously variable)
Outline Dimension ..... 190 (W) x 430 (H) x 430 (D) mm
Weight (without package) ..... 10.0 kg
Power Requirements
European model ..... AC 220 – 230 V, 50/60 Hz
Singapore model ..... AC 220 – 230 V, 50/60 Hz
Multi-voltage model ..... AC 110 – 115V/120V – 127V/220 – 230V /240V (seleccionable), 50/60 Hz
Power Consumption
Singapore model ..... 82 W
European models ..... 86 W
Multi-voltage model ..... 243 W
Accessories ..... Speaker cords x 2
RCA plug cord x 1
Operating instructions x 1
Warranty card (MYXMA: Only) x 1

NOTE:
Specifications and design subject to possible modification without notice, due to improvements.